

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

WALTER M. DICKIE, M. D., DIRECTOR

Weekly



Bulletin

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GUY P. JONES
EDITOR

MUSSEL POISONING IN CALIFORNIA

By DR. K. F. MEYER, Consulting Bacteriologist, State Department of Public Health; Director, Hooper Foundation for Medical Research.

During the month of July, 1927, 102 people were seriously poisoned and six died following the consumption of the large mussel, *Mytilus californianus*, Conrad, which had been freshly gathered at fourteen different beds on the open shore line of the Pacific coast in the vicinity of San Francisco. Although the origin of the poison is not definitely established, since the investigations are still in progress, it is known that (1) the toxic properties of the mollusks are due to a poison, probably a quaternary amine, which is heat stabile in acid solutions and which causes motor nerve paralysis; the concentration of the poison, as determined by laboratory test, may vary in different mussels and different beds: (2) the poison is not formed by bacteria nor due to copper salts from the rocks nor due to the little crab, *Pinnotheres pisum*, which lives in the mantle cavity, nor is it induced by parasites such as sponges and starfish: (3) the poisonous mussels were neither located in stagnant and polluted basins nor exposed to the sun for a long period at low tide, but they were subjected to the ebb and flow of the tides; the poison is therefore not due to asphyxiation or post mortem changes: (4) it is probably the result of a metabolism disease influenced by the

food and spawning condition of the shellfish: (5) poisonous mussels can not be distinguished from sound mollusks, neither by appearance nor behavior on cooking; occasionally a pungent odor may be noted; the "liver" is always large and dark: (6) the shellfish may become poisonous within a few days and may remain so for several weeks; no assurance can be given that the mussels may not acquire the poisonous properties overnight: (7) during the winter months, December to March, the poison disappeared only to reappear late in March; however, the amount of poison which may be present early in spring is not sufficiently concentrated to cause symptoms on ingestion in an empty stomach: (8) since it is impossible to examine all the mussel beds along the California shore line, it is impossible to establish by laboratory test the absence of poisonous mussels in certain beds and during certain months of the year.

From the experiences thus far collected it is quite apparent that the use of mussels on the California coast during the summer months is always connected with some danger. Near Santa Cruz poisoning cases have occurred in two successive years; no assurance can be given that this condition may not repeat itself.

People who notice a tingling or numbness around the lips and prickly feeling in the finger tips and toes thirty minutes or longer after they have eaten mussels should empty the stomach by an emetic, purge the intestinal tube by brisk laxatives and call for a physician immediately. All, even mild, cases of mussel poisoning should be promptly reported to the California State Department of Public Health, San Francisco; Telephone, Park 8700.



Sewage Works Association Formed.

In response to a general communication addressed by the State Department of Public Health to the cities of the state, a conference of those interested in the operation and building of sewage works in California was held at the State Building, San Francisco, June 11, 1928. An enthusiastic group of 51 men who came from all parts of the state formed an organization to be known as California Sewage Works Association, the objects of which are to promote the advancement of the knowledge of design, construction, operation and management of sewage works and the friendly exchange of information and experience therein.

Geo. W. Fuller, Sanitary Engineer of New York, told of the achievements of a similar association in Great Britain and the United States. Mr. Abel Wolman, Chief Sanitary Engineer of Maryland, and Mr. Effert, Assistant State Sanitary Engineer of Texas, told of their experiences and the betterments coming from their associations.

An organizing committee of the following was appointed: A. K. Warren, Andrew M. Jensen, O. E. Steward, Philip Schuyler, C. G. Gillespie.

The committee was also authorized to apply for membership in the National Federation of Sewage Works Association and to appoint representatives on its Board of Control.

Dues were fixed at \$2.00 without admission fees. It is the expectation that cities will recognize membership and attendance and provide for attendance at the meetings of the association of officers and employees responsible for municipal sewage disposal. The next meeting will be held in San Bernardino, October 8, 1928, at which time a worth-while program, with inspection trips to sewage works of interest, will be held.

Nurses Register For Institutes.

Many public health nurses are registering for attendance upon the institutes to be held in Berkeley and Los Angeles under the joint auspices of the California State Department of Public Health and the Summer Session of the University of California. Following are the names of nurses who have registered for the institute to be held in Berkeley, July 9-20:

Public Health Nurses Registered to July 1, 1928, for Berkeley Institute, July 9-20

Anderson, Margaret	Sacramento
Arfsten, Blanche J.	Salinas
Berge, Maria Pia	Tulare
Carrow, Rozzie M.	Woodland
Clausen, Sigrid I.	San Jose
Clute, Cora E.	Redwood City
Crowe, Marion G.	Portland, Ore.
De Ferrari, Elizabeth M.	Los Banos
Doyle, Dorothy	San Rafael
Erna, Florence	Martinez
Fleming, R. C.	Oakland
Goodwin, Elsie M.	Salinas
Gregson, Mable A.	Burlingame
Higgins, Ethel B.	Antioch
Hunsinger, Olivia	Oakland
Jacobson, Marie A.	San Luis Obispo
Jenkins, Frances C.	Berkeley
Jones, Vena V.	Berkeley
Killinger, Muriel M.	Stockton
King, L. Gertrude	Oakland
Lohr, Emile T.	San Francisco
Long, Edna M.	Tulare
McGowan, Teresa A.	Yuba City, Ariz.
Meyer, Marguerite R.	Oakland
Miller, Anastasia	Sacramento
Miller, Ruth M.	Sacramento
Norris, Lois Stevens	Red Bluff
O'Connell, Mary A.	Oakland
Olsson, Ella N.	Berkeley
O'Neill, Lillian E.	Oakland
Paulsen, Sara J.	San Francisco
Prescott, Lillian B.	Oakland
Richards, Elsie	Oakland
Robinson, Edna B.	Martinez
Ross, Isabel	San Francisco
Schmits, Louise	Oakland
Shinnick, Lena M.	Niles
Strange, Ethel J.	Lockeford
Sweeney, Ruta Burchard	Hayward
Thomas, Hester A. M.	Alameda
Wellensick, Alvina M.	Sacramento
Williams, Mary B.	Bakersfield
Woodworth, Helen L.	Berkeley

Following are the names of those nurses who have registered for the institute to be held in Los Angeles, July 23-August 3:

Public Health Nurses Registered to July 1, 1928, for Los Angeles Institute, July 23 to August 3, 1928

Albright, Ruth M.	Los Angeles
Baird, Lena M.	Pasadena
Blake, Allie M.	El Segundo
Bridston, Lydia	Gridley
Burns, Mary J.	San Bernardino
Collett, Mary	Los Angeles
Cook, Augusta	Santa Barbara
Deebach, Mildred	Santa Ana
Durgan, Idabel	Orange
Eaden, J. Olive	Los Angeles
Garland, Mary E.	Los Angeles
Grilk, Katherine L.	Los Angeles
Harrison, Irene	Los Angeles

Hauk, Kathryn	Los Angeles
Hill, Elma V.	Los Angeles
Hoge, Mary	Los Angeles
Humphrie, Gertrude	Monrovia
Jessee, Virginia	Los Angeles
Kuehl, Margaret	Santa Ana
McDonagh, A.	Los Angeles
Morehouse, Ruth	Los Angeles
Morris, Orpha	Los Angeles
O'Connor, Mamie	Monrovia
Perkins, Martha S.	Los Angeles
Peterson, Alice	Huntington Park
Ratliff, Laura	Ocean Park
Rohrbach, Elizabeth	Los Angeles
Rust, Anna	Los Angeles
Upton, F. Helen	Los Angeles
Whitworth, Frances	Venice
Woolgar, Ernestine L.	Glendale

Health Officers

Newly Appointed.

Dr. J. L. Parker has been appointed city health officer of Brawley, to succeed Dr. Eugene Le Baron, who has served his city for many years.

Dr. Clara M. Rinehart has been appointed city health officer of Tehachapi to succeed Dr. Rupert G. Doupe.

Mr. Clarence R. Walter on June first succeeded Dr. M. E. Westphal as city health officer of Atherton in San Mateo County.

The public health work of Walnut Creek has been taken over by the Contra Costa County Health Department, of which Dr. I. O. Church is county health officer. Dr. C. R. Leech has served long and faithfully as city health officer of Walnut Creek.

Many Water Supplies Are Now Chlorinated.

A recent survey of public water supplies in California reveals the fact that the water from sixty-eight such supplies is chlorinated thereby insuring the safety of the drinking water used by 3,185,000 regular consumers. The total amount of water so treated is one-half billion gallons daily. This constitutes an outstanding achievement and is responsible, largely, for the great reduction in water-borne typhoid in California. The development of this procedure has been comparatively rapid, since chlorination was started in California only thirteen years ago.

Many strong bodies decay because they are tenanted by inactive minds, many weak bodies are frayed by too much mental activity, but if a strong body is, so to speak, irrigated by an active mind, the result is vigour. Please note that an active mind does not necessarily imply brains: many persons with active minds have very little brains.—Lord Bryce.

State Examines Only Public Water Supplies.

The growth of the work of the Bureau of Sanitary Engineering has become so great that it is necessary to confine the examination of water supplies to town and city supplies. Such supplies are distinctly public and it has become an invariable rule for the bureau not to do examinations for commercial firms, individuals or organizations. There are many private laboratories equipped for performing examinations of water supplies and the state bureau must, of necessity, confine its activities to public work.

Dorothy Canfield (Dorothea Canfield Fisher) author of "The Montessori Mother," "Mothers and Children" and many other books and magazine articles, recently sent the following endorsement of toxin-antitoxin to the Poughkeepsie Evening Star:

May I add my voice to those who are urging the mothers of Poughkeepsie children to take advantage of the opportunity for safeguarding them against diphtheria. With the wonderful records of success of the modern treatment, there can be no reason for not having children immunized from this frightful danger save the poor excuse of inertia. No mother would allow inertia to interfere with her rushing into a burning house to save a child. Nor would she "put off till later" defending a little son or daughter from the attack of a wild animal. Neither fire nor wild beasts are more dangerous to children than diphtheria. No mother should put off the visit to the clinic which insures the children's safety.—Health News, New York State Department of Health.

"What is most worth while? Health is, for one thing. I do not mean simply the abounding vigour of youth, with abundance of fresh air and exercise and with its reserves which seem to mock the warnings of elders. I mean, rather, the sustained and protected strength which is based on the conservation of physical resources and gives promise of a long life well lived.

"In our onward journey the ranks are rapidly thinned by the passing out of those who had their brief day and were soon done. When their notes matured they were unable to meet them. Nothing is sadder than these physical bankruptcies, which deprive men and women of opportunities when with the capital of experience well invested they should have the most ample returns."—Charles E. Hughes.

MORBIDITY *

Diphtheria.

79 cases of diphtheria have been reported, as follows: Alameda County 2, Alameda 1, Berkeley 1, Oakland 3, Fresno County 1, Eureka 1, Imperial 1, Los Angeles County 5, Burbank 2, Hermosa 1, Long Beach 1, Los Angeles 22, Pasadena 1, San Fernando 1, Orange County 3, Anaheim 1, Santa Ana 1, Riverside 3, Sacramento 1, Redlands 1, San Bernardino 2, San Diego 2, San Francisco 5,

* From reports received on July 2d and 3d for week ending June 30th.

Stockton 1, San Mateo 3, Santa Clara County 2, San Jose 2, Dorris 8, California 1.

Scarlet Fever.

107 cases of scarlet fever have been reported, as follows: Alameda County 1, Alameda 7, Oakland 6, Fresno 1, Eureka 1, Kern County 4, Los Angeles County 8, Long Beach 3, Los Angeles 11, Santa Monica 1, Merced County 1, Orange County 1, Anaheim 1, Orange 1, Sacramento 7, San Diego 4, San Francisco 13, San Joaquin County 1, Stockton 13, San Mateo County 2, Redwood City 1, Santa Clara County 13, San Jose 3, Shasta County 1, Sutter County 2.

Measles.

38 cases of measles have been reported, as follows: Alameda 2, Contra Costa County 2, Los Angeles County 1, Long Beach 5, Los Angeles 4, Sausalito 1, Fullerton 1, Sacramento 3, San Diego 2, San Francisco 8, San Mateo 1, Santa Barbara 1, Santa Clara County 4, San Jose 1, Stanislaus County 1, Modesto 1.

Smallpox.

18 cases of small pox have been reported, as follows: Alameda 1, Berkeley 1, Oakland 2, Brawley 10, Kern County 1, Sacramento 1, Manteca 2.

Typhoid Fever.

9 cases of typhoid fever have been reported,

as follows: Oakland 1, Contra Costa County 1, Eureka 1, Sacramento County 3, San Joaquin County 2, Stockton 1.

Whooping Cough.

132 cases of whooping cough have been reported, as follows: Alameda 1, Berkeley 1, Oakland 4, Fresno County 2, Los Angeles County 4, Compton 1, Glendale 2, Long Beach 1, Los Angeles 69, Pasadena 2, San Marino 2, Lynwood 1, South Gate 2, Sausalito 1, Sacramento 4, San Diego County 2, Chula Vista 3, San Diego 13, San Francisco 7, Stockton 7, San Mateo County 1, Santa Clara County 1, San Jose 1.

Poliomyelitis.

8 cases of poliomyelitis have been reported, as follows: Berkeley 1, Humboldt County 1, Los Angeles County 1, LaVerne 1, Los Angeles 1, Santa Ana 1, Santa Clara County 2.

Meningitis (Epidemic).

3 cases of epidemic meningitis have been reported, as follows: San Diego 2, Dorris 1.

Encephalitis (Epidemic).

Berkeley reported three cases of epidemic encephalitis.

Coccidioidal Granuloma.

Kern County reported three cases of coccidioidal granuloma.

COMMUNICABLE DISEASE REPORTS

Disease	1928				1927			
	Week ending			Reports for week ending June 30 received by July 3	Week ending			Reports for week ending July 2 received by July 5
	June 9	June 16	June 23		June 11	June 18	June 25	
Anthrax.....	0	0	0	0	0	0	0	0
Botulism.....	0	0	0	0	0	0	0	0
Chickenpox.....	505	351	212	310	332	288	177	127
Coccidioidal Granuloma.....	0	0	0	3	0	0	0	0
Diphtheria.....	84	87	74	79	114	101	100	71
Dysentery (Bacillary).....	1	0	0	2	1	2	1	1
Encephalitis (Epidemic).....	2	1	1	3	1	2	2	1
Food Poisoning.....	11	4	0	0	0	0	0	0
German Measles.....	206	121	85	41	88	71	36	34
Gonococcus Infection.....	141	97	71	76	94	91	71	92
Influenza.....	41	23	23	18	16	10	13	10
Jaundice (Epidemic).....	0	0	0	0	2	1	0	0
Leprosy.....	0	1	0	0	2	1	1	1
Malaria.....	1	1	0	0	1	1	1	0
Measles.....	75	51	39	38	727	596	420	207
Meningitis (Epidemic).....	3	3	2	3	5	6	4	4
Mumps.....	256	241	156	99	180	158	100	64
Paratyphoid Fever.....	1	1	1	0	1	0	1	2
Pneumonia (Lobar).....	38	42	35	41	112	45	34	27
Poliomyelitis.....	9	4	3	8	6	16	25	14
Rabies (Animal).....	7	22	16	15	16	8	4	4
Rocky Mt. Spotted Fever.....	0	1	0	0	0	0	0	0
Scarlet Fever.....	134	152	109	107	156	144	113	73
Smallpox.....	11	18	20	18	23	16	8	16
Syphilis.....	196	169	125	160	83	153	76	119
Tetanus.....	2	2	3	0	0	1	3	3
Trachoma.....	2	2	2	0	6	2	2	0
Trichinosis.....	0	0	0	0	0	0	0	0
Tuberculosis.....	262	203	253	185	264	195	219	123
Typhoid Fever.....	14	13	13	9	13	8	16	9
Typhus Fever.....	0	0	0	0	0	0	0	0
Whooping Cough.....	341	225	205	132	215	198	153	103
Totals.....	2,343	1,835	1,448	1,347	2,458	2,114	1,580	1,105

CALIFORNIA STATE PRINTING OFFICE